UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,991	01/23/2001	Miyuki Sasaki	P20481	4070

7055   7590   05/13/2004

GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

EXAMINER
CHANNAVAJJALA, SRIRAMA T

ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 April 2004*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-27* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Response to RCE

CONTINUED EXAMINATION UNDER 37 CFR 1.114 AFTER FINAL REJECTION

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/29/2004 has been entered paper no. # 16, and a non-final Office action paper 17 is as follows:

2.   Examiner acknowledges applicant's amendment filed on 3/29,2004, 4/29/2004, papers 13 and 16 respectively.

3.   Claims 1,3,5-6,8,10-11,13,15-16,18,21,23,25-27 have been amended, paper no.13.

4.   Claims 1-27 are pending in this application.

Drawings

5.   Examiner acknowledges applicant's drawings filed on 3/31/2004.

Priority

6.   Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon an application filed in Japan application no.10-252161, filed on 7 September 1998, Japan 10-208902, filed on 24 July 1998, PCT/JP99/03950 was filed on July 23, 1999.

Information Disclosure Statement

7.   The information disclosure statement filed on 8/5/2003, paper no. # 6 and

9/10/2003, paper no. # 9 have been considered and a copy was enclosed to this office

action, paper no. # 10.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

8.   Claims 1-2,6-7,11-12, 21-22, are rejected under 35 U.S.C. 103(a) as being

unpatentable over Van Maren et al., [hereafter Van Maren], US Patent No. 5579516 in

view of Okuda, US Patent No. 5740445.

9.   As to Claims 1, 6,11,16, 21, Van Maren teaches a system which including 'a data

storage medium for recording and reproducing a file managed using a volume/file

structure in which a number of data recording operations to a same area is limited'

[Abstract, col 2, line 27-32], data storage medium corresponds to optical disk(s),

volume/file structure corresponds to file set on a multiple volume media as detailed in

Abstract, col 2, line 27-29,

        'start address information for an unrecorded area existing in a volume space

information being recorded in the volume space as part of root directory file

management information' [col 2, line 42-50, col 4, line 21-30, line 55-62, fig 2, col 7, line

25-26], Van maren firstly directed to storing data files on a multiple volume media set,

more specifically set of files on a multiple volume media in a international standard for

ISO/IEC 13346 for optical media [see Abstract], secondly, Van Maren teaches directory

structure, more specifically fig 1 is an example of directory hierarchy having root

directory DO, sub-directories such a sD1-D2 as detailed in col 4, line 31-34], thirdly, Van

Maren specifically directed to information control blocks or ICB is part of structure which

allows file entry information, i.e., writing data into optical disk would be first written on

ICB for directory DO, followed by directory DO [col 4, line 55-57], start address

information is integral part of Van Maren's teaching because Van Maren specifically

directed to directory structures or files that providing an index to the data files on the

disk or set of disks, further Van Maren also suggests for example lists the address of its

parent directory, i.e., root directory lists the address of its own ICBs that would have

start addresses, as best understood by the examiner, address that specifies specific

location of a data item or first element of a set of data items within a storage or output

device which may be optical disk or any ISO/IEC standard data storage devices as

suggested by Van Maren [see col 4, line 21-29], further it is noted that start address of

an unrecorded area in a directory corresponds to the space that has been allocated for

each information control block that helps to built directories starting with directory DO

that would have starting address [col 7, line 25-26]

It is however, noted that Van Maren does not specifically teach 'address

information for a root directory', although Van Maren specifically suggests for example

directory hierarchy structure such as detailed in fig 1 where root directory DO having

various sub-directories such as D1,D2 and like, further Van Maren also suggests

storage of files, specifically file name is ASCII form of ICB address or ICB address as a

file name [see col 8, line 9-14]. On the other hand, Okuda disclosed 'address

information for a root directory' [fig 5, col 5, line 16-22, line 45-48, line 62-67]

It would have been obvious to one of the ordinary skill in the art at the time of

applicant's invention to incorporate the teachings of Okuda into storing data files on a

multiple volume media set of Van Maren et al., because both Van Maren and Okuda

also directed to file structure, more specifically both are directed to organizing,

managing various files in a directory information [see Okuda: Abstract], Van Maren

{Abstract], both are from same field of endeavor. One of ordinary skill in the art at the

time to applicant's invention to combine the references because that would have

allowed users of Van Maren et al., allocate specific address with a serial number to the

root directory where linking information root directory entries are linked to the next

directory entries [see Okuda: col 5, line 35-42, col 6, line 37-52], further it allows to

search directory information using serial number from the directory table.

10.   As to Claims 2, 7, 12, 17, 22, Van Maren teaches a system which including 'start

address information is recorded using an indirect entry for managing a root directory file

recording area' [fig 2, col 4, line 63-67], root directory corresponds to fig 1, DO.

11.   Claims 3-4, 8-9, 13-14, 18-19, 23-24, rejected under 35 U.S.C. 103(a) as being

unpatentable over Leonhardt et al., [hereafter Leonhardt], US Patent No. 5485321 in

view of Okuda, US Patent No. 5740445.

12.   As to Claims 3, 8, 13, 18, 23, Leonhardt teaches a system which including

'a data storage medium for recording and reproducing a file managed using a

volume/file structure in which a number of data recording operations to a same are is

limited' [Abstract, col 1, line 6-13], data storage medium for recording and reproducing

corresponds to Leonhardt's computer data storage and recording, retrieving such as

removable disks or magnetic type devices or optical disks and like as detailed in col 1,

line 31-42], 'invalid data not used for retrieving volume/file structure, the invalid data

being recorded before and after volume/file structure and a data file' [col 1, line 45-48,

col 12, line 45-64, col 14, line 15-41, col 20, line 50-56], Leonhardt is directed to format

and method for recording that is associated with control logic, more specifically, data

storage method for linearly recording data blocks on a recording media [col 3, line 10-

14], further it is noted that Leonhardt specifically suggests for example recording header

would have both specific fields designated for valid and invalid data [col 12, line 45-64,

col 20, line 50-56], Leonhardt suggests for example virtual beginning of tape or VBOTx

marker has ability to designates the beginning of a valid collection of data blocks, also

VBOTx marker allows to track, and record valid and invalid data as detailed in fig 3,

col 12, line 55-67, col 13, line 1-31],

'invalid extent management information for managing an invalid data recording

area, the invalid extent management information being recorded in the volume space as

part of root directory file management information' [col 1, line 45-48, col 12, line 45-64,

col 20, line 50-56, col 21, line 57-67], recording valid or invalid data are integral part of

Leonhardt's teaching because Leonhardt specifically suggests for example header field

are designated for valid and invalid data that are automatically set during Scratch data

mode for optimizing the recording process as detailed in col 20, line 50-64

It is however, noted that Leonhardt does not specifically teach 'address

information for a root directory'. On the other hand, Okuda disclosed 'address

information for a root directory' [fig 5, col 5, line 16-22, line 45-48, line 62-67]

It would have been obvious to one of the ordinary skill in the art at the time of

applicant's invention to incorporate the teachings of Okuda into format and method for

recording optimization of Leonhardt et al., because both Leonhardt and Okuda directed

to information or data recording medium, more specifically Leonhard is directed to

performance optimized computer data recording media format [see Abstract], while

Okuda is directed to directory information management for recroding medium

[see Abstract].

One of ordinary skill in the art at the time to applicant's invention to combine the

references because that would have allowed users of Leonhardt et al., allocate specific

address with a serial number to the root directory where collection of related data blocks

on the recording tracks within a sequence of one or more group allocation units root

directory entries are linked to the next directory entries [see Okuda: col 5, line 35-42,

col 6, line 37-52], further it allows to both Leonhardt and Okuda search specific

information related to data fields or files [see Okuda: col 6, line 4-15; Leonhardt: fig 6].

13.   As to Claims 4, 9, 14, 19, 24, Leonhardt teaches a system which including

'invalid extent management information is recorded using an allocation descriptor for

managing a root directory file recording area' [col 20, line 50-64, col 21, line 57-67,

col 22, line 1-14].

14.   Claims 5,10,15, 20, 25-27, are rejected under 35 U.S.C. 102(a or b) as being

anticipated by Caffarelli, Fabrizio [hereafter Caffarelli], EP0730274A2

15.   As to Claims 5, 10, 15, 25-27, Caffarelli teaches a system which including 'a data

storage medium for recording and reproducing a file managed using a volume/file

structure in which a number of data recording operations to a same area is limited'

[see Abstract],

        'address information for a file set descriptor' [page 6, col 9, line 41-46], Caffarelli

specifically teaches each file/directory record that including starting block address;

        'root directory file management information is plurality of recorded as main

chaining information and reserve chaining information' [page 9, col 15, line 23-46,, root

directory corresponds to root directory that is assigned ID no. 1 as detailed in fig 9,

chaining information corresponds to directory, subdirectory and file is identified by

unique identifier is part of directory chain to locate required information as detailed in

col 15, line 36-38],

        'first address information corresponding to an area in which the main chaining

information and reserve chaining information are recorded at a beginning of a volume

space is recorded as part of a file set descriptor' [col 15, line 47-58, col 16, line 1-13,

page 10, col 18, line 40-50],

        'second address information corresponding to an area in which the main

chaining information and reserve chaining information is update recorded is recorded as

part of main chaining information and reserve chaining information' [col 13, line 31-46,

col 16, line 46-58, col 17, line 1-6], reserve information area corresponds to Caffarelli fig

10, element 480, 505.

Response to Arguments

Applicant's arguments filed on 4/29/2004,3/29/2004, papers 16 and 13

respectively have been fully considered, for examiners' response, see discussion below:

.a)   At page 17, page 18, Claims 1,2,6,7,11,12,16,21,22 Van Maren et al., does not

disclose using start address information for an unrecorded area

As to the above argument [a], Van Maren firstly directed to storing data files on a

multiple volume media set, more specifically, storing files data on multiple optical disk

volumes in an optical disk auto changer compatible with ISO/IEC standards as detailed

in Abstract, col 2, line 12-18, secondly, Van Maren teaches various information control

blocks or ICBs that are related to meta-data, it is noted that meta-data includes directory

information or directories, file information as detailed in col 2, line 34-36, thirdly, Van

Maren specifically teaches for example each directory or sub-directory that lists the

file(s) have names and addresses of information control blocks or ICBs [col 4, line 21-

27], further it is noted that start address of an unrecorded area in a directory

corresponds to the space that has been allocated for each information control block that

helps to built directories starting with directory DO that would have starting address

[col 7, line 25-26]

Start address information is integral part of Van Maren's teaching because Van Maren specifically directed to directory structures or files that providing an index to the data files on the disk or set of disks, further Van Maren also suggests for example lists the address of its parent directory, i.e., root directory lists the address of its own ICBs that would have start addresses, as best understood by the examiner, address that specifies specific location of a data item or first element of a set of data items within a storage or output device which may be optical disk or any ISO/IEC standard data storage devices as suggested by Van Maren [see col 4, line 21-29].

b)   At page 17Claims 3,13,18,23 Leonhardt et al., does not disclose the use of invalid extent management information'

As to the above argument (b), As best under stood by the examiner Leonhardt teaches the limitation as noted in the above office action, further examiner notes that recording valid or invalid data are integral part of Leonhardt's teaching because Leonhardt specifically suggests for example header field are designated for valid and invalid data that are automatically set during Scratch data mode for optimizing the recording process as detailed in col 20, line 50-64

c)   At page 17, page 21-22, Claims 5,10,15,20,25-27, Caffarelli does not disclose address information that corresponds to recorded chaining and reserve chaining information and update recorded chaining and reserve chaning information

As to the above argument (c), Caffarelli is directed to firstly, file system for incrementally recording data on a compact disks [see fig 1, Abstract], secondly, Caffarelli teaches previously recorded files are being read back, more specifically file system as detailed in fig 2 reads and interprets the recorded file/directory structure to locate the desired files as detailed in page 5, col 7, line 47-51], thirdly, Caffarelli also teaches organizing each and every directory and file in a specified manner, in other words, each directory and each file in a directory is described by a file/directory record as detailed in fig 5 with appropriate flags, path, and volume descriptors, as best understood by the examiner, the reserve chaining information corresponds to Caffarelli's fig 10, element 480, 505 because this space is reserved for future use such as adding other attribute or location information related to file/directory records. It is further noted that Caffarelli specifically teaches new path table contains pointers to the unchanged file/directory records and to any new or updated file directory records as detailed in page 7, col 11, line 10-17.

As to the arguments at page 19-21, note the new rejection supra.

Applicant's arguments with respect to claims 1-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record

a.	US Patent No.	5579516
b.	US Patent No.	5485321
c.	EP0730274A2	
d.	US Patent No.	5740445

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

e.	US Patent No.	5740422
f.	US Patent No	6173291
g.	US Patent No	5119291
h.	US Patent No	6456783
i.	US Patent No	4791623
j.	US Patent No	5778392
k.	US Patent No	5355497
l.	US Patent No	5347651
m.	US Patent No.	5500887
n.	US Patent No.	5875476
o.	US Patent No.	6173291
p.	US Patent No.	5799212
q.	US Patent No.	6385389

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Srirama Channavajjala whose telephone number is

(703) 308-8538.   The examiner can normally be reached on Monday-Friday from

8:00 AM to 5:30 PM Eastern Time. The TC2100's Customer Service number is

(703) 306-5631.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John E. Breene, can be reached on (703) 305-9790. The fax phone

numbers for the organization where the application or proceeding is assigned are as

follows:

703/746-7238   **(After Final Communication)**

703/872-9306   **(Offical Communications)**

703/746-7240   **(For Status inquiries, draft communication)**

Any inquiry of general nature or relating to the status of this application or

proceeding should be directed to the Group receptionist whose telephone number is

(703) 305-9600.

sc

Patent Examiner.

May 11, 2004.